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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,623	02/22/2006	Pierre Dournel	05129-00119-US	2463

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EXAMINER	
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ART UNIT	**PAPER NUMBER**
1796	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/567,623	DOURNEL ET AL.	
	Examiner	Art Unit	
	Irina S. Zemel	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18,20 and 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18,20 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2-8-2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1,6-18 and 20-21 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a process utilizing means for preventing heat accumulation that are compounds having boiling point of at least 80 C, or compounds capable of endothermic decomposition at temperatures above 80 C does not reasonably provide enablement for any other means for preventing heat accumulation. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

Case law holds that applicant's specification must be "commensurately enabling [regarding the scope of the claims]" *Ex parte Kung*, 17 USPQ2d 1545, 1547 (Bd. Pat. App. Inter. 1989) otherwise undue experimentation would be involved in determining how to practice and use applicant's invention. Although the statute itself does not use the phrase "undue experimentation", it has been interpreted to require that the claimed invention be enabled so that any person skilled in the art can make and use the invention without undue experimentation as stated in *Ex parte Forman*, 230 USPQ 546, 547 (Bd. Pat. App. Inter. 1986) and in *In re Wands*, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

Specifically, in *In re Wands* the Court set forth a non-exhaustive list of factors to be considered in determining whether undue experimentation would be involved in making and/or using the claimed invention. These factors include, but are not limited to : (a) the breadth of the claims; (b) the nature of the invention; (c) the state of the prior art; (d) the level of one of ordinary skill; (e) the level of predictability in the art; (f) the amount of direction provided by the inventor; (g) the existence of working examples; and (h) the quantity of experimentation needed to make or use the invention based on the content of the disclosure.

Applying these factors to claim 1, it is noted that the specification provides no direction or working examples (cf. factors (f) and (g)) for any means for preventing heat accumulation other than specific examples of chemical compounds and their boiling temperatures of above 80 C. Since the function of the claimed "means for preventing heat accumulation" is not clearly defined (it is not clear whatsoever what is meant y heat accumulation prevention either quantitatively or even qualitatively, where the heat is not accumulated, or to what extent it is prevented), the only guidance for choosing such component is given trough its boiling point (or general chemical structure), not through its function. Thus, the only portions of the specification that describe the means for preventing heat accumulation recited in claim 1 are pages 2-4 and these pages name only either specific compounds (and, again, it is not clear which of the compounds

listed in the large generic groups of compounds, indeed, exhibit the claimed function) or their physical characteristics, i.e., specific boiling point, or flash point.

Furthermore, in view of the breadth of claim 1 (cf. factor (a)) which encompasses innumerable number of "means for preventing heat accumulation", such as virtually any organic liquid with boiling point above room temperature, which are mutually structurally different, it is urged that the quantity of experimentation (cf. factor (h)) involved in order to reach a usable embodiment would be great. In light of the above factors, it is concluded that undue experimentation would be involved to make and use the invention as presently claimed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 claims a foam which is obtainable" by a specifically claimed process of claim 1. However, the term "obtainable" renders that claim indefinite since it is not clear whether the claimed foam is, in fact, obtained by the claied process or is only capable of being obtained by the process.

Claim 21 claims a process that utilized foaming agent of claim 7. However, claim 7 is also drawn to a process (a different process), and not to a blowing agent.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 11, 13, 15-18 and 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,441,992 to Santos et al., (hereinafter "Santos").

Santos discloses a method of manufacturing phenolic polymeric foams by reacting phenols and aldehydes in the presence of a catalyst and further in the presence of a blowing agent that comprises a low point blowing agent, such as hydrocarbons disclosed in column 1, lines 55-57, and an additional blowing agent , perfluoroalkane (PFA) of the formula disclosed in column 1, line 63. The preferred (PFA) are listed as dodecafluoropentane, tetradecafluorohexane and hexadecafluoroheptane in column 2, lines 1-2. One of the three listed preferred PFA is hexadecafluoroheptane, which inherently has the claimed boiling point (and ability to endothermically decompose) above 80 C. The amount of PFA added to the composition as disclosed in the illustrative examples is about 0.4 %, which fully correspond to the claimed amounts. The reference expressly discloses the foamable mistures containing two blowing agents, one of which is a low boiling point HFC and another is a high boiling point PFA (See illustrative examples). Although in the examples dodecafluoropentane is sued as PFA, use of hexadecafluoroheptane is clearly envisaged from the genus of only three listed PFA as discussed above. The reference discloses production of block foams (continuous sheets). While the

reference does not name the disclosed hexadecafluoroheptane as a “means for preventing heat accumulation”, or does not call the steps of the disclosed method as “exothermal foaming steps”, the compound disclosed in the reference, i.e., hexadecafluoroheptane is identical to the compounds disclosed as such in the instant specification, and the process disclosed in the reference is identical to the process disclosed in the instant specification utilizing similar blowing agents in substantially identical amounts.

Therefore, the invention as claimed is fully anticipated by the disclosure of the reference, and the difference is only of a semantic nature of calling identical steps and compounds via different terms.

Claims 1-8, 11-12, 16 -18, 20-21 rejected under 35 U.S.C. 102(b) as being anticipated by US PGPub 2003/0078312 to Hibino et al., (hereinafter “Hibino”).

Hibino discloses a method of manufacturing polyurethane polymeric foams by reacting polyols and isocyanates in the presence of a catalyst and further in the presence of a blowing agent that comprises a low point blowing agent, i.e., HFC-245f, and a “vapor pressure depressant" having boiling point above 20 C, as discussed in [0017]. The reference expressly exemplifies compositions containing HFC-245f in combination with compounds having boiling points above 80 C, (such as n-butyl ether and esters of glycols). The amount of the depressant added to the composition as disclosed [0018] which fully correspond to the claimed amounts. While the reference does not name the disclosed depressants as a “means for preventing heat accumulation”, or does not call the steps of the disclosed method as “exothermal

foaming steps", the compound disclosed in the reference, i.e., with boiling point above 80 C, are identical to the compounds disclosed as such in the instant specification, and the process disclosed in the reference is identical to the process disclosed in the instant specification utilizing similar blowing agents in substantially identical amounts.

Therefore, the invention as claimed is fully anticipated by the disclosure of the reference, and the difference is only of a semantic nature of calling identical steps and compounds via different terms.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 6-12, 14-18 and 20-21 rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 6,303 688 to Barthelemy et al., (hereinafter "Barthelemy").

Barthelemy discloses a method of manufacturing polyurethane foams by reacting polyols and isocyanates in the presence of a catalyst and further in the presence of a blowing agent that comprises a blowing agent, such as hydrocarbons (disclosed, for example, in column table 1), and an additional blowing agent , such as pentafluorobutane (HFC -365mfc).

In the absence of any specific definition of what the constitutes "means for preventing heat accumulation", any organic liquid having boiling point above room

temperature and requiring heat energy to achieve boiling, such as either the disclosed hydrocarbons of Tb above room temperature (hexanes, pentanes), or HFC-365mfc read on the claimed means as they inherently function as compounds exhibiting endothermic transition behavior. It is further noted that at least one of the two illustrative examples in the instant application does not employ any high boiling or decomposition temperature components (other than water, which can also be present in examples of the reference).

The amount of, for example, the hydrocarbon (taken from preferred mixtures of blowing agents) added to the composition fully correspond to the claimed amounts, when recalculated based on the amount of components as disclosed, for example, in paragraph bridging columns 3 and 4. .While the reference does not name the disclosed blowing agents as a “means for preventing heat accumulation”, or does not call the steps of the disclosed method as “exothermal foaming steps”, the compounds disclosed in the reference, i.e., hydrocarbons of fluorocarbons, inherently exhibit boiling points above room temperature, and, inherently, exhibit the endothermic transition behavior as discussed above, thus inherently resulting in the claimed process steps.

While the reference generically discloses making polyurethane foams, the reference does not specifically address the shape of the foams or their dimensions, However, its is the examiners position, that production of "sheet-like" foams of various thickness form polyurethane based foamable mixtures (disclosed in th reference) is notoriously known in the art and would have been obvious for an ordinary artisan to obtain the final product of desired dimensions depending on the end use application.

.Claims14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2003/0078312 to Hibino et al., (hereinafter “Hibino”).

The disclosure of Hibino is discussed above. While the reference generically discloses making polyurethane foams, the reference does not specifically address the shape of the foams or their dimensions, However, its is the examiners position, that production of "sheet-like" foams of various thickness form polyurethane based foamable mixtures (disclosed in th reference) is notoriously known in the art and would have been obvious for an ordinary artisan to obtain the final product of desired dimensions depending on the end use application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Irina S. Zemel/
Primary Examiner, Art Unit 1796

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ISZ